

SCANFAX

May 2003

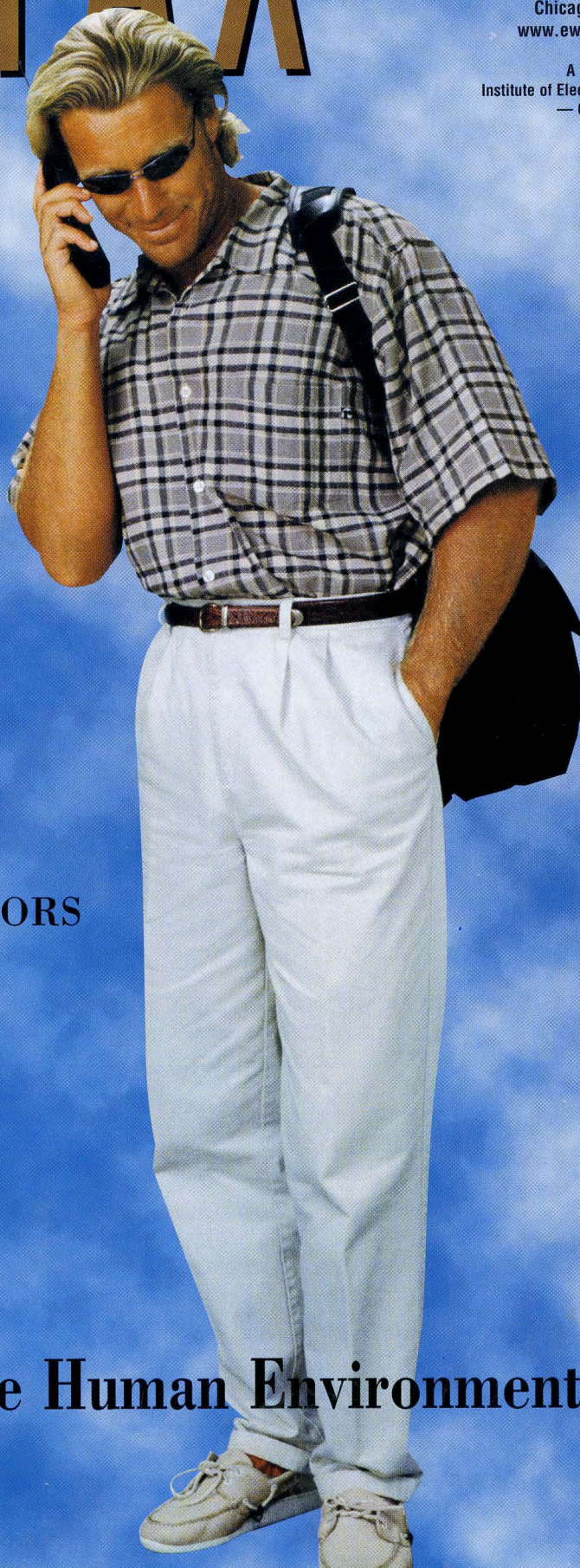
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www.ewh.ieee.org/r4/chicago

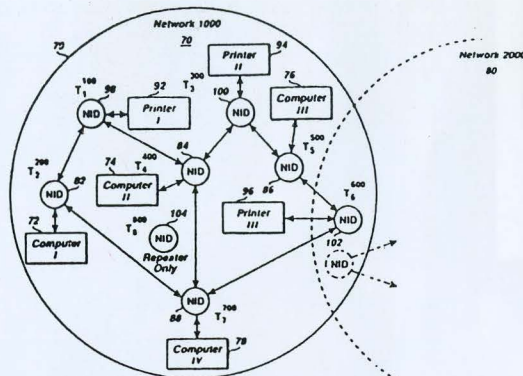
A publication of the
Institute of Electrical & Electronics Engineers
— Chicago Section —

CELL PHONE MAY
BE AWKWARD STAGE
IN EVOLUTION OF
PERSONAL COMMUNICATORS



Engineering and the Human Environment

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Chairman

Patrick Hennelly
Phone 847-398-4510
Fax 847-398-0597
E-mail phennelly@ieee.org

Editor

Gerry Ryan
Phone 708-445-7537
Fax 708-445-7538
E-mail: gerryr_idcs@ameritech.net

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Publisher

Barbara Slack

Advertising Sales

Beth Vander Grinten
Phone: 608-222-7630
E-mail: bethv@slackattack.com

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SCANFAX

May 2003

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CHICAGO SECTION EXECUTIVE COMMITTEE MEETING

Tuesday, May 13, 7:00 p.m.

DeVry DuPage, Room TBA, 1221 N. Swift Rd., Addison, IL

No Registration Needed

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ENGINEERING AND THE HUMAN ENVIRONMENT

CELL PHONE MAY BE AWKWARD STAGE IN EVOLUTION OF PERSONAL COMMUNICATORS

by Paul Zukowski

Everywhere you go, you see people with only one hand on the steering wheel of their vehicles as they talk on a cell phone. Some states have begun banning the practice as a way to prevent accidents. We see them walking and talking—or trying to—and bumping into people. Then every now and then, it seems people are talking to themselves before we spot the earpiece and microphone connected to their cell, sometimes by a wire, sometimes through Bluetooth technology, a form of wireless connectivity based on short-range radio wave frequency.

It is not far-fetched to speculate that having to hold a slippery little radio up to your ear to make a call will seem as primitive as hand-cranking a signal on a wall-mounted phone or using a rotary dial.

At Johnson Controls, Milwaukee, the automotive division has developed a hands-free system that enables drivers to use their cell phones through voice recognition software. They call the product BlueConnect. It allows drivers to operate a cell phone without having to connect it to a headset or adapter. The system is mounted on the overhead console and users activate it by pushing a blue button. An embedded microphone picks up the driver's voice and the car's audio system transmits the sound. BlueConnect was designed so surrounding noise would not interfere with incoming calls.

Johnson Controls started developing BlueConnect more than two years ago. It partnered with QNX Software Systems; Boise, Idaho's Extended Systems for the Bluetooth technology software; and Wave-makers, a company in Vancouver, British Columbia, for the voice quality software. IBM and Intel Corp. were also involved in the development of the automotive telematics

product. Engineering, design and development work was completed at Johnson Controls' Holland, Michigan, plant.

Johnson Controls demonstrated the product at the Convergence 2002 automotive technology conference in Detroit in October. It has sold the product to several auto manufacturers, including DaimlerChrysler, which calls it the U-Connect system. Factory installation of the system was to have started in early 2003 on DaimlerChrysler vehicles.

One of the main advantages of BlueConnect is that it features open architecture, which means anyone can use it if they have a Bluetooth-enabled cell phone. BlueConnect also does not require an additional subscriber fee, unlike General Motors Corp.'s OnStar system, a hands-free system whose technology is embedded into the car.

A study by Gartner G2, a division of Gartner Group Industry showed nearly 50 percent of consumers are likely to buy a hands-free phone product in their next new car, especially when faced with legislation banning the use of hand-held cell phones.

REACHING A LIMIT ON TALKING

Being able to talk while driving, walking, or waiting in line leads to the question: How much can we talk?

Many cell phone plans offer free weekend calling. One company has offered 10,000 minutes of monthly talk time for \$55, a plan they say is "not for the faint of lip." Domestic long distance is often as cheap as a local call.

How much can a person talk?

Turns out the numbers are surprising. According to the Federal Communications Commission, between 1980 and 1996 the

talking rate stayed steady. Households used home phones, nearly all on unlimited local-calling plans, about 40 minutes per day for local calls.

After 1996, less expensive long-distance rates added some calls, and the advent of cell phones pushed growth even further. Today the average person's overall wireless and wireline phone time is about 30 hours per month. Analysts figure most people have a maximum of 35 non-work hours a month they could spend on the phone. Using up 10,000 minutes would take one of every three waking hours.

In fact, market research firm J.D. Power reports that the average cell phone user talks 541 minutes per month, less than 40% of the 1,359 minutes available on the average plan. And with prices for international calls at a record low, U.S. international calling traffic hardly budged during 2001, according to the Wall Street Journal.

So if there is a natural talking limit, maybe adding functions to phones is a good idea. But time will tell if the market accepts the new phones that show a picture of who is speaking, send and receive snapshots, e-mails, and text messages, and even track your location and direct you to the nearest restaurant—where you have to shut off your phone.

Of course, if the phone was embedded in your ear, had no external ring, and you didn't mind giving the impression you were talking to yourself, maybe you could find a few more minutes in the day to yak. ■

Paul Zukowski is a freelance writer based in Madison, WI, who frequently covers technology.

LUNCH MEETING

Chicago Chapter of the IEEE Power Engineering Society Series Ratings Wednesday, May 14, 2003

Shahid Sheikh, General Electric Company

About the Topic

This presentation will provide answers to the following questions:

- What is a series rating
- What is the history of series ratings
- When is it appropriate to apply series ratings
- Under what circumstances should a "series rating" be avoided

Attendees will learn about the mysteries behind the "Series Rating" and how it works. In addition, the presentation will address:

- Misconceptions about current limiting devices
- Power distribution systems coordination
- Selectivity concerns with series ratings versus fully rated systems
- UL and NEC issues

About the Speaker

Shahid Sheikh is a systems engineer with General Electric Company. He has worked in the power engineering field for the last 25 years. Mr. Sheikh has international as well as U.S. market experience, and has worked with well-known organizations like AEG, Bechtel, and Stanford University. For the past 13 years, Shahid Sheikh has been working in the Chicago area as a systems engineer with General Electric Company.

Location:

Chicago Bar Association
321 South Plymouth Court
(Near Jackson & Dearborn)
Chicago, IL 60604

Time:

11:30 AM Social
12:00 PM Lunch (optional)
12:15 PM Presentation
1:00 PM Adjourn

Cost/Reservations:

Lunch tickets can be purchased in the lobby bookstore (\$11.00). Please call the IEEE Business Office at (312) 253-4333 to make your reservations.

For More Information:

Please visit the Chicago Chapter IEEE PES web site: <http://peschicago.org>

EVENING MEETING

IEEE Chicago/Rockford Consultant's Network Making a Good Impression: Dress for Success Tuesday, May 20, 2003

About the Topic:

In addition to networking and sharing leads and referrals, there is usually a guest speaker. On Tuesday, May 20, 2003 (NOTE THE DAY CHANGE), we will have a presentation by Ms. Sandy Bundy on "Making a Good Impression: Dress for Success." Although many aspects of engineering are precisely described with logic or equations, others require engineering judgment. Similarly, the real world can be very judgmental. Looking like a professional, being "sharp," and presenting yourself as capable sometimes has little to do with your intellect and abilities, but rather the first impressions made to a prospective client. "Dress for Success" will present information to help the engineering consultant and independent business person create good first impressions. Members and non-members are invited to both the meeting and the optional dinner. Reservations are NOT required.

About the Speaker:

Sandy Bundy has been a dealer in Vintage clothing and other collectibles for over 10 years. She currently has mall space in the Antique Mall of Bloomingdale.

Meeting Location:

Palatine Public Library
700 North Court
Palatine, IL 60067
847-358-1216

Dinner Location:

Bakers Square
270 E. Northwest Highway
(at the corner of North Court St.)
just south of the library

Time:

6:15 PM Optional Group Dinner at Bakers Square (Order off of the menu - reservations are not required)
7:30 PM Meeting - Open Discussion
9:00 PM Adjourn

Information:

Information about the network can be obtained by e-mail to either benmiller@worldnet.att.net or JAuerConsulting@worldnet.att.net, or visit our website: <http://www.drblank.com/coaction.htm>

See you on MAY 20, 2003, and bring consultants and those who aspire to be consultants for a pleasant and informative evening of networking.

Meetings are usually held on the last Monday of odd-numbered months; **however, this and the July meeting are on a Tuesday.**

ALL-DAY EVENT

IEEE EMC Society Chicago Chapter 5th Annual Chicago EMC MiniSymposium Tuesday, May 20, 2003

About the Topic:

Now in its fifth year, the IEEE EMC Society Chicago Chapter MiniSymposium offers engineers, managers and project supervisors an excellent opportunity to receive world-class EMC training locally and at a very reasonable cost. The MiniSymposium is an all-day event with topics ranging from EMC design principles and regulations to test methods and test equipment.

This year's event will feature a variety of interesting topics including:

- EMC Regulatory Fundamentals: CE Mark & FCC
- Receiver Technology, Measurement Basics, Methods & Techniques
- Conducted Immunity Standards Revision
- Design for EMC using Software Modeling Techniques

- Chamber Considerations for MIL-STD & CISPR
- Importance of load tolerance in RF amplifiers

In addition to the various technical presentations, there will be over twenty vendor exhibits highlighting EMC related products, test equipment and services. Exhibitors include technical representatives, test laboratories, test equipment manufacturers, component suppliers, EMC modeling vendors and consultants.

Location:

Holiday Inn
860 West Irving Park Road
Itasca, IL 60143
TEL: 630-773-2340

Time:

8:00 AM - 5:30 PM

Cost:

Admission for IEEE members is \$35 (\$45 non-members, \$15 students) and includes breakfast rolls and coffee, lunch, and entry into several door prize raffles.

Reservations:

R.S.V.P. to attend the Mini Symposium contact Ray Klouda or Steve Laya at Elite Electronic Engineering (630-495-9770) to receive a registration form. Additional information on the symposium and a copy of the registration form is available on the Chapter website.

For More Information:

<http://www.ewh.ieee.org/soc/emcs/chicago/>

LUNCH MEETING

IEEE - IAS/IES Luncheon Presentation City of Chicago Code - Emergency Power Wednesday, May 21, 2003

About the Speaker:

Presenter to be announced later.

Location:

Costa's (Greektown)
340 S. Halsted St.
Chicago, IL 60661
Costa's is located in Greektown on the corner of Van Buren and Halsted. For detailed directions and a map, see www.iaschicago.com.

Time:

11:30 AM Social
12:00 PM Lunch
12:00 - 1:00 PM Presentation

Cost:

Your cost includes the presentation and lunch with a choice of the main entry - roast lamb, chicken, or fish (vegetarian or special dietary meals available upon request). Cost is \$25 IEEE Member and \$30 non-member. Valet parking is included with your meal.

Reservations:

Please call the IEEE Business Office at (800) 898-IEEE or (312) 253-4333 with your reservation. Please note any special meal requests at the time of the reservation. You can also make your reservations on line at www.iaschicago.com

Note: For P.E. licenses that require continuing education for renewal, attendance at IEEE Technical Meetings is acceptable as one Professional Development Hour (PDH) per meeting.



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EVENING MEETING

IEEE Fox Valley Subsection, IEEE Joint Chapter on Engineering Management, IEEE Chicago Section, & IIT Center for Professional Development (Rice Campus) **The Job Search for Electrical Engineers (Panel Discussion)** Wednesday, May 21, 2003

Joy Dooley, Jim Fergle, Vickie Austin

About the Topic:

A panel discussion about the current job search environment for electrical engineers. There will be short presentations:

1. Joy Dooley will discuss "The Job Search as a Process."
2. Jim Fergle will discuss the resume, the 1st look, and which format is best, as well as what the Illinois Training and Employment Center has to offer.
3. Vickie Austin will provide some practical advice on networking, beginning with the people you already know (and who know you) in order to position yourself for career success.

The presentations will be followed by discussion and questions from the audience.

About the Speakers:

Joy Dooley has a B.A. in Communications from Marquette University, a Master's Degree in Family Studies from Northern Illinois University, and a degree in Addiction Counseling from the College of DuPage. She is the Director of Adult Services for Lisle Township and has been the facilitator of the Lisle Township Job Clubs for the last 12 years.

Jim Fergle is the Manager, Employment Services, DuPage Workforce Development Division in the Lombard Illinois Training and Employment Center. Jim is a former U.S. Army officer and has worked as a Job Service representative at the Illinois Department of Employment and Security; a personnel recruiter; and as a veterans career assessment counselor and trainer for DuPage Workforce Development. He is a graduate of St. John's University, MN with a B.S. in Government.

Vickie Austin has been coaching people through career transitions since 1997, when she founded CHOICES Worldwide, a coaching and business development practice. Committed to her mission of "creating a world in which everyone loves what they do and does what they love," Austin is a frequent speaker and lecturer, and is the host of "Career Coach Corner," a monthly book review at Borders in Wheaton, IL. Since 1998, Austin has been a free-lance contributor to the career publications of the Wall Street Journal, and she continues to contribute articles to CareerJournal.com, StartupJournal.com and CollegeJournal.com. A graduate of Arizona State University and the American Graduate School of International Management (Thunderbird), Austin is a wife and mother, a singer, cellist, song-writer and poet in her spare time.

Location:

IIT's Rice Campus
201 East Loop Road
Wheaton, IL 60187

Take Rt.56/Butterfield Rd. to first stoplight east of intersection of Butterfield & Naperville roads. Turn north onto East Loop Road (Grady's Restaurant and Phillip's 66 Gas Station on the corners); the campus will be on your right about a block north of Butterfield Road. More detailed directions and a map are available at: <http://www.rice.iit.edu/directions.html>

Sponsorship:

IEEE's Fox Valley Subsection, IEEE Joint Chapter on Engineering Management, IEEE Chicago Section, and Illinois Institute of Technology's Center for Professional Development (Rice Campus).

Time:

6:00 PM Networking time
7:00 PM Presentation

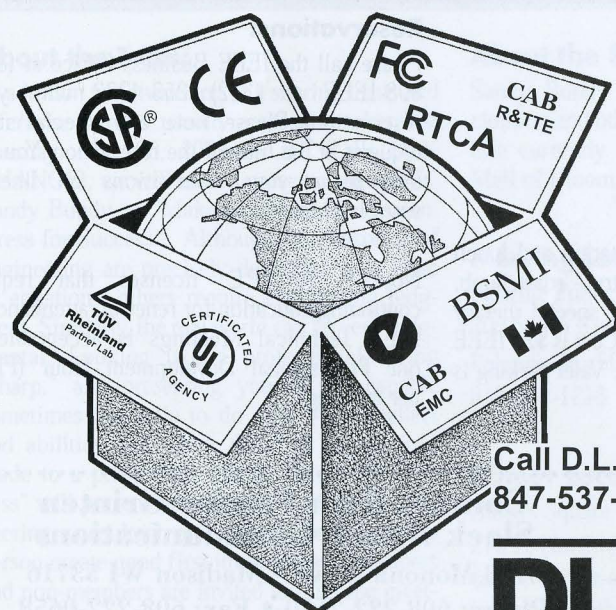
Reservations:

Reservations are not required. Open to the public; free.

The Fox Valley subsection website is the following: www.ieee.org/foxvalley/

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EVENING MEETING

IEEE Fox Valley Subsection and Naperville Astronomical Association **Potentially Hazardous Asteroids** Friday, June 6, 2003

Robert C. Elliott

About the Topic:

With the advent of off the shelf CCD cameras and computer controlled telescopes, in the past few years many amateur astronomers have found a way to make a valuable contribution to the field of Minor Planet and Comet research. A collaborative effort of professional and amateur astronomers around the world allows the pros to keep tabs on a group of objects called "Potentially Hazardous Asteroids" with the observations made and reported by amateurs and their back yard observatories. Large survey telescopes are discovering more of these PHAs each month and the job of following up on these new interlopers is largely left to the amateur. A plan of action will be presented that would allow an astronomical society to become involved in this important work.

About the Speaker:

Robert C. (Bob) Elliott is a professor emeritus of the University of Wisconsin-Eau Claire where he taught Physics and Astronomy and directed the Planetarium and Observatory for 31 years. He now spends his time as President of the Friends of Beaver Creek Reserve, a nature center near Fall Creek, WI and home to the Hobbs Observatory, which he helped build. He has a BS in Physics from Michigan State and an MST in Astronomy from Cornell with additional graduate work at the University of Arizona where he started making astrometric observations of comets and minor planets in 1970. Bob has co-authored several papers on Markarian Galaxy positions and minor planet sizes and since retiring has submitted over 1500 comet and minor planet positions to the Minor Planet Center; 653 of those are of Near Earth Objects.

Location:

Naperville Municipal Center
Aurora Ave. & Eagle St. (downtown)
Naperville, IL 60540

For detailed directions and a map, go to: <http://www.stargazing.net/naa/map.htm>

Sponsorship:

IEEE's Fox Valley Subsection and the Naperville Astronomical Association

Time:

7:30 PM Presentation

Reservations:

Reservations are not required.

The Fox Valley subsection website is at: www.ieee.org/foxvalley/

EVENING MEETING

ED/CAS/SSC (Electron Devices/Circuits and Systems/Solid State Circuits) **Digital Broadcast Television** Wednesday, June 11, 2003

About the Topic:

Zenith Electronics will host a technical meeting on Digital Broadcast TV. Demonstrations on HDTV, digital broadcast strengths over analog, and DASE (Data Application Software Environment) interactive television will be presented.

Time:

7:00 PM Social
7:30 PM Presentation

Location:

Zenith Electronics Corporation
2000 Millbrook Drive
Lincolnshire, IL 60069

For More Information:

The June issue of SCANFAX will contain a more detailed description of the presentation along with directions to Zenith Electronics. Also, check our website at the following: <http://ewh.ieee.org/r4/chicago/ed-cas-ssc/>

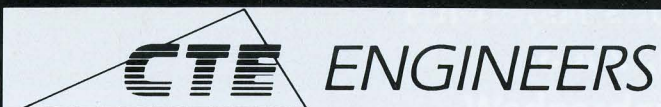
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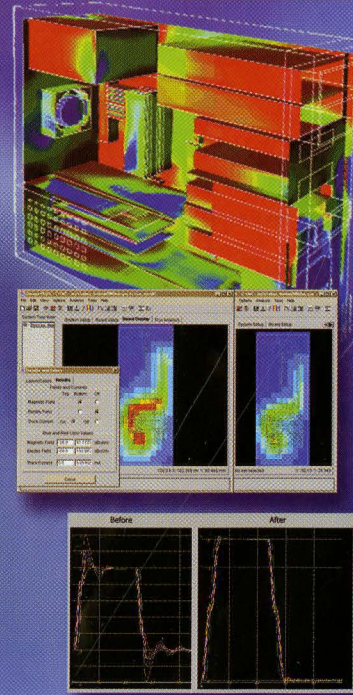
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Attn: Human Resources, Dept. S.A.
Or fax to: (312) 938-1109

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TEST LABORATORY

Technology Education Series Presents:

Simulation of EMI Using Software Modeling

Wednesday, May 21st, 2003 9:00 a.m. - 2:00 p.m.

This seminar will focus on the capabilities of two commercially available software packages: Omega PLUS, the signal integrity and EMI simulation software platform from Quantic EMC Inc, and FLO/EMC from Flomerics.

Dr. Al Wexler will present an overview of EMI software modeling then focus on Omega PLUS capabilities and applications for SI/EMI performance, crosstalk, ringing, overshoot, undershoot, settling time, and noise margin violations. Omega PLUS predicts near-field EMI levels from tracks, vias, and pins, even if the board is encapsulated in copper planes.

Dr. David Johns will present the FLO/EMC computational tools for analyzing electromagnetic emissions from enclosures and cabinets, including the effects of cables, seams and apertures. FLO/EMC allows three-dimensional radiated power patterns to be computed in both the near and far field of the structure.

Cost: No Charge

Registration: Visit www.elitetest.com for seminar information, registration and directions.

Elite Electronic Engineering Inc.

1516 CENTRE CIRCLE, DOWNERS GROVE, IL 60515

1-800-ELITE-11 [1-800-354-8311]

www.elitetest.com

Seminar Highlights

- Introduction to commonly used numerical EMI modeling techniques
- Transmission line modeling fundamentals
- Component modeling, IBIS models
- Signal integrity considerations and modeling
- Development of PCB model using Omega Plus and presentation of application examples
- Development of systems model using FLO/EMC and presentation of application examples

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Show your interest in section activities by voting.

Ballots must be
postmarked by
June 4th.

ELIGIBILITY REQUIREMENTS:

- All members of the IEEE Chicago Section who are FULL members for 2003-2004 are eligible to vote.
- Student members and Associate members are not eligible to vote.

VOTING INSTRUCTIONS:

- Vote for a candidate by checking the box immediately to the left of the candidate's name.
- Write-in candidates are accepted for any office. Write-in candidates must be full members as defined above.
- To enter a write-in candidate, place the office title, candidate name, and member number

in the area provided. Additional write-in candidates may be submitted on a separate piece of paper (please sign).

- You may vote for only one candidate for each office.

We have several open positions and are looking

for volunteers. Please help keep this organization strong by becoming involved as an IEEE Chicago Section officer or committee chair. We need you! For more information contact Pat Hennelly at phennelly@ieee.org or 847-398-4510.

BALLOT INSTRUCTIONS:

- Enter your name, membership number, and mailing address in the space provided.
- After voting, sign the ballot on the line at the bottom.
- Ballots **must be mailed to:**
IEEE Business Center
c/o Western Society of Engineers
53 W. Jackson Blvd., Suite 1730
Chicago, IL 60604

Please mark "Ballot" on the envelope.

Chicago Section Nominations 2003-2004

OFFICERS:

- | | | |
|-------------------|--------------------------|-------------------|
| Chair Person | ☐ | Angeline Schaefer |
| Vice Chair Person | ☐ | Norm Phoenix |
| Treasurer | ☐ | Pat Hennelly |
| Secretary | ☐ | Dennis Lamont |

COMMITTEES:

- | | | |
|-----------------------|--------------------------|-----------------|
| Awards | ☐ | Patrick Murphy |
| Conference | ☐ | OPEN POSITION |
| Finance | ☐ | Chuck Nochumson |
| Government Activities | ☐ | Bert Orszula |
| Member Services | ☐ | Jack Sherman |
| PACE | ☐ | Jim Fancher |
| Program | ☐ | Joe Feitler |
| Publications | ☐ | Gerry Ryan |
| Special Events | ☐ | Joe Feitler |
| Student Activities | ☐ | OPEN POSITION |

Write-in Candidates:

Office	_____
Name	_____
IEEE Memb. #	_____
Office	_____
Name	_____
IEEE Memb. #	_____
Office	_____
Name	_____
IEEE Memb. #	_____

Ballot submitted by:

Name	_____
IEEE Memb. #	_____
Address	_____

Phone	_____

Signature (required) _____